

CLAIMS

1. An automatic toilet room flush valve, comprising:
a valve body including an inlet and an outlet and a valve seat inside said body;
5 a valve member cooperatively arranged with said valve seat, said valve member being constructed and arranged to control water flow between said inlet and said outlet, movement of said valve member between open and closed positions being controlled by water pressure inside a pilot chamber;
an external cover defining a cavity designed for enclosing a battery, a
10 sensor and an actuator for controlling operation of said flush valve; and
a vent passage for venting water from inside of said cavity defined by said external cover.
2. The flush valve of claim 1 wherein said cover includes a main body part
15 and another removable part.
3. The flush valve of claim 1 wherein said cover includes an optical window, and said sensor is an optical sensor geometrically aligned with said optical window.
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4. The flush valve of claim 2 wherein said main cover body provides overall rigidity to said external cover.
5. The flush valve of claim 1 wherein said cover includes a main retaining
25 member and a removable member constructed and arranged to be removed without affecting water pressure in said pilot chamber.
6. The flush valve of claim 5 further constructed to adjust detection sensitivity of said sensor while maintaining said optical window located on said
30 main cover body.

7. The flush valve of claim 5 wherein said removable member is attached with respect to said main retaining member using at least one screw.

5 8. The flush valve of claim 7 wherein said at least one screw attaches with respect to a pilot cap defining said pilot chamber and being attached to said valve body.

9. The flush valve of claim 1 wherein said cover includes a button constructed to move between upper and lower positions and designed for
10 manually triggering a flush cycle when pushed to said lower position.

10. The flush valve of claim 1 wherein said valve member includes a piston.

15 11. The flush valve of claim 1 wherein said valve member includes a flexible diaphragm.

12. The flush valve of claim 11 wherein said flexible diaphragm includes a centrally located passage connecting said relief passage and said outlet, said
20 flexible diaphragm being retained with respect to said valve body by a pressure cap defining said pilot chamber.

13. An automatic toilet room flush valve, comprising:
a valve body including an inlet and an outlet and a valve seat inside said
25 body;
a valve member cooperatively arranged with said valve seat, said valve member being constructed and arranged to control water flow between said inlet and said outlet, movement of said valve member between open and closed positions being controlled by water pressure inside a pilot chamber;

an external cover defining a cavity designed for enclosing a battery, a sensor and an actuator for controlling operation of said flush valve, said external cover including a main cover body, a front cover and a top cover; and

5 a vent passage for venting water from inside of said cavity, said vent passage being defined by said external cover in a manner substantially preventing water from flowing into said cavity.

10 14. The flush valve of claim 13 wherein said vent passage includes a downward oriented lip defined by said external cover.

15 15. The flush valve of claim 13 or 14 wherein said main cover body provides overall rigidity to said external cover.

16. The flush valve of claim 13 or 14 wherein said top cover is removable while maintaining said front cover including a sensor window located in place with respect to said main cover body.

17. The flush valve of claim 16 wherein said sensor is an optical sensor and said sensor window in an optical window.

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18. The flush valve of claim 17 further constructed to adjust detection sensitivity of said sensor while maintaining said optical window located on said main cover body.

25 19. The flush valve of claim 13 or 14 wherein said top cover includes at least one side surface designed for facilitating removal of said top cover.

20. The flush valve of claim 13 or 14 wherein said top cover is attached with respect to said valve body using at least one screw.

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21. The flush valve of claim 20 wherein tightening of said at least one screw attaches said main cover body, said front cover, and said top cover to a pilot cap defining said pilot chamber and being attached to said valve body.

5 22. The flush valve of claim 13 or 14 wherein said external cover includes a vent passage for venting water from inside of said external cover.

10 23. The flush valve of claim 13 or 14 wherein said top cover includes a button constructed to move between upper and lower positions and designed for manually triggering a flush cycle when pushed to said lower position.

24. The flush valve of claim 13 or 14 wherein said valve member includes a piston.

15 25. The flush valve of claim 13 or 14 wherein said valve member includes a flexible diaphragm.